Your Community of Choice

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October 26, 2015

Mr. James Polek
Environmental Engineer
Wastewater Enforcement Section (ENF-3-1)
US Environmental Protection Agency Region IX
75 Hawthrorne Street
San Francisco, CA 94105

Re: Preliminary Local Limits Report Submittal

Dear Mr. Polek:

In response to Administrative Order CWA-309(a)-15-011, the City of North Las Vegas is submitting the enclosed preliminary report corresponding to Paragraph B of said Order. If you have any questions regarding this submittal, please contact me at (702) 633-1903.

Sincerely,

Randall E. DeVaul, P.E., Director
Utilities Department

Cc: Qiong Liu, P.E., PTOE, City Manager
Sandra Morgan, City Attorney

CITY OF NORTH LAS VEGAS
Department of Utilities
2250 Las Vegas Boulevard North
North Las Vegas, NV 89030

Preliminary Report on Local Discharge Limits

Administrative Compliance Order CWA-309(a)-15-011

10/22/2015

Introduction

Paragraph B of Administrative Order CWA-306(a)-15-011, City of North Las Vegas NPDES Permit No. NV0023647 as filed on June 26, 2015 by the United States Environmental Protection Agency Region IX – Pacific Southwest Region, requires the respondent to develop local discharge limits using site specific data in accordance with 40 CFR 403.5 and to submit a preliminary report by Novewmber 1, 2015 to include:

i. A description of POTW processes, design criteria, and average/peak loadings;
ii. A summary of sampling data for local limit development;
iii. An analysis of pollutants of concern ("POCs") with an explanation for selection of the specific POCs; additional POCs may be identified from additional sampling;
iv. A summary of the criteria used for the calculation of headworks based on the respondent's current NPDES permit, Nevada water quality standards, sludge standards, any applicable air regulations, and worker health and safety considerations;
v. A presentation of the documented historical loadings from the POTW's industrial users discharging to the collection system including hauled wastewater users;
vi. A presentation of the loadings from uncontrollable (domestic) sources;
vii. A strategy for the POTW's use of data that is below detection limits;
viii. A summary of the inhibition thresholds for the POTW; inhibition occurs when pollutant levels in a POTW's wastewater or sludge cause operational problems for biological treatment processes involving secondary or tertiary wastewater treatment and alter the POTW's ability to adequately remove BOD, TSS and other pollutants

Note: This is a preliminary report. The local limits study is continuing. The data presented herein may or may not represent the final data used for determining final local limits.

i. A description of POTW processes, design criteria, and average/peak loadings

POTW Original Basis of Design:

	Effluent Discharge Limitations or Reporting Requirements		
Parameters	30 Day Average	7 Day Average	30 Day Average (lb/Day)
Flow	25 MGD	Monitor and Report MGD	N/A
BOD5 (uninhibited)	30 mg/l	45 mg/l 85% minimum removal	
Total Suspended Solids	30 mg/l	45 mg/l 85% minimum removal	
Fecal Coliform			N/A
Ammonia as N	N/A	N/A	
Total Phosphorus	N/A	N/A	

Design Influent Water Flow

Scenario	Flow, MGD	Peaking Factor
Annual Average	25	1.0
Maximum Month	30	1.2
Maximum Day	35	1.4
Maximum Hour	50	2.0

Design Influent Wastewater Load Characteristics

Scenario	CBOD mg/L	CBOD lbs/d	TSS mg/l	TSS lbs/d	TKN mg/l	TKN lbs/d	TP mg/l	TP lbs/d
Annual Average	300	62,500	330	68,805	43	8,965	7.0	1,460
Maximum Month	325	81,315	357	89,445	47	11,655	7.6	1,900

POTW Process:

The City of North Las Vegas Water Reclamation Facility (WRF) is an advanced wastewater treatment facility designed to treat an average daily flow of 25 MGD and a peak hourly flow rate of 50 MGD. The WRF treats wastewater from the City of North Las Vegas to meet NDEP permit requirements for discharging into public waters. Wastewater flows by gravity into the WRF via the Southeast Interceptor. WRF process units include:

- Headworks Facility (HWF)

The Headworks Facility (HWF) contains all the preliminary treatment for the WRF. Preliminary treatment includes coarse screening, influent pumping, grit removal, and fine screening. Also located in the HWF are processing units for the collected screenings and grit. The function of preliminary treatment is to remove larger material such as rags, sticks, cloth, paper, garbage, and grit that would otherwise damage downstream equipment.

- Membrane Bioreactor (MBR)

The purpose of the bioreactor basins is two-fold. One function is to oxidize the biochemical oxygen demand (BOD) in the screened and degritted raw sewage by maintaining a biological (growing microorganisms) population within the basins to convert organic waste into a settleable (filterable) cell mass. The second function is to provide an environment that reduces the influent nitrogen and phosphorus levels to meet the discharge standards.

The biological treatment is performed in six parallel bioreactor basins. Each basin is divided into a series of zones, isolated from each other by submerged baffle weir walls. The configuration and

sizing of these zones is based on the basic principles of biological nutrient removal, using a configuration adapted for use in membrane bioreactors (MBRs) that optimizes the enhanced biological removal of nitrogen and phosphorus while recognizing the unique differences in the quality and flow of return activated sludge (RAS) in MBR systems.

The following are brief discussions of the purpose of the zones within the MBR system; pre-anoxic, anaerobic, anoxic, and aerobic.

- The primary purpose of the pre-anoxic zone is to reduce dissolved oxygen and nitrate concentrations prior to the RAS entering the anaerobic zone.
- The purpose of the anaerobic zone is to create conditions that promote the release of phosphorus by polyphosphate-accumulating organisms, resulting in a maximal increase in the soluble phosphorus concentration.
- The purpose of the anoxic zone is to reduce nitrate concentrations.
- The purpose of the aerobic zones is to provide conditions that permit aeration of a high mixed liquor concentration, oxidize BOD in the bioreactor influent (BI) feed stream, convert influent ammonia to nitrate, and uptake phosphorus.

- Disinfection (Chlorine Contact Basins)

The purpose of the Chlorine Contact Basin (CCB) is to disinfect plant effluent to meet regulatory requirements. The CCB's are sized to disinfect peak flow should one basin be taken out of service.

Plant effluent can be discharged as a surface water discharge to the Las Vegas Wash (LVW), pumped to reuse applications and uses, or pumped to the plant water system.

Chlorine solution is injected into the 48-inch CCB influent pipe upstream of a jet mixing system to ensure even distribution of chlorine throughout the CCB influent. Membrane permeate enters the chlorine contact basin via one of two 36-inch pipes from the MBR system. Chlorine residual is monitored at both the upstream end of the CCB (for the influent) and the downstream end (for the effluent). Any residual chlorine in the effluent discharged to the Wash will be dechlorinated using sodium bisulfite. Recycled water for reuse will receive an additional chlorine dose if needed prior to discharge to the customers. Effluent for plant water will be withdrawn after dechlorination.

- Solids Handling Facility (SHF)

The purpose of the Solids Handling Facility is to remove water from scum and waste activated sludge (WAS) collected from the membrane bioreactors prior to solids disposal. This is done in two steps, thickening followed by dewatering. The thickening and dewatering equipment are designed to remove excess water from the solids in an effort to reduce the volume and weight of waste transported to a nearby landfill.

The solids thickening equipment consists of Gravity Belt Thickeners (GBT). WAS pumped from the membrane bioreactor to the Solids Handling Facility is discharged onto the GBT's rotating belt. The belt is porous and allows water to pass through via gravity, which is then collected and drained back to the headworks for treatment. The remaining thickened waste activated sludge (TWAS) is then collected in a tank and pumped to the next step, dewatering.

The dewatering equipment consists of horizontal bowl centrifuges. The TWAS is pumped into the centrifuges where it is rotated at high speeds to centrifugally separate water from the solids that

could not be separated via gravity. The separated water is collected and transported back to the facility's headworks for treatment. The remaining solids, also referred to as cake, are collected below the centrifuge, and conveyed to the cake load-out hoppers. The cake is stored in the fully enclosed, odor controlled hoppers prior to being loaded and hauled to a landfill for disposal.

- Odor Control

The purpose of odor control is to capture, convey, and treat odorous compounds present in the air that are released during the wastewater treatment process. The odor control system is designed to remove the main odor causing compounds found at wastewater treatment plants such as hydrogen sulfide, methyl mercaptan and di-methyl sulfide. These compounds are detectible to humans at low concentrations and produce a distinct odor associated with wastewater treatment plants, while at higher concentrations they can be hazardous to humans and animals. The odor control system is designed to remove these compounds from the air to levels below which will not result in undesirable odors detectible outside of the facility. The odor control system for the City of North Las Vegas WRF consists of two facilities. The first is for treatment of odors generated at the Headworks and Solids Handling Facilities, and utilizes a Granular Activated Carbon (GAC) system to remove the odorous compounds from the air stream. The second system is design to treat the odorous air generated at the MBR by atmospheric dispersion, through which the air is dispersed to a high elevation and diluted in the atmosphere.

- Effluent Disposal

Water from the chlorine contact basins (CCBs) is used for plant utility water, reuse water or is discharge to the LVW. Water leaving CCBs flows over weirs into an effluent box and gravity flows to the LVW. Sodium bisulfite is added to the CCB effluent at the weir with a diffuser to provide adequate mixing. Sulfite residual is monitored far enough downstream of the sodium bisulfite addition point to provide at least 30 seconds of contact time at peak hour flow. Maintaining a sulfite residual will indicate that no chlorine is present in the discharge to the Wash. The flow rate of water discharging to the Wash is measured by a magnetic flow meter on the discharge pipe.

Constant speed pumps draw reuse water and adjustable speed pumps draw utility water from the chlorine contact basin, upstream of the effluent weir. No interconnection is provided between the two systems. An additional supplemental chlorine connection is located at the suction line of the reuse pumps for boosting the chlorine residual, if necessary.

- Solids Disposal

Washed and compacted solids collected during the screening and grit removal processes are collected in three dumpsters located in the HWF Container Building. Dewatered solids are collected in storage hoppers at the SHF. Prior to loading the semi-truck bed with solids for disposal, the truck is weighed empty at the onsite truck scale. Once weighed, the truck proceeds to the proper Container Building truck bay and pulls the proper dumpster onto the truck. For the SHF, the truck proceeds to the proper truck bay and positions the truck under the proper cake storage hopper load-out gates. The truck operator then opens the gates and loads the truck bed with cake solids. Once the truck is properly loaded per the truck operator the truck again weighs in at the onsite truck scale. The loaded truck then transports the solids to a landfill for disposal.

The WRF site is designed to accommodate a future expansion of 25 MGD average daily flow by duplicating the existing facilities.

ii. A summary of sampling data for local limit development

INFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
Flow	17.3	20.1	15.6	956	0
2,3,7,8-TCCD	0.000000001019	1.4E-09	7.67E-10	10	10
2-Butanone (MEK)	0.0037	0.0055	0.0027	3	0
3&4-Methylphenol	0.052	0.067	0.038	5	0
4-methyl-2-pentanone (MIBK)	0.0053	0.0053	0.0053	1	0
4-Methylphenol (p-Cresol)	0.047	0.067	0.034	7	0
Acetone	0.14	0.28	0.044	3	0
Ammonia	26	43	17	21	0
Ammonia from Conventionals	24	54	11	956	0
Antimony	0.00125	0.00125	0.00125	13	13
Arsenic, Total	0.0025	0.0029	0.002	19	18
Barium	0.14	0.16	0.12	6	0
Benzyl Alcohol	0.019	0.02	0.018	2	0
Beryllium	0.0005	0.001	0.0005	19	19
bis(2-ethylhexyl)phthalate	0.014	0.068	0.005	18	13
BOD5	311	490	190	21	0
BOD5 from Conventionals	348	740	120	952	0
Boron	0.3	0.3	0.2	11	0
Bromodichloromethane	0.0066	0.025	0.0025	19	15
Cadmium, Total	0.0006	0.0016	0.0005	19	17
Chlorodibromomethane	0.0032	0.0033	0.0031	2	0
Chloroform	0.011	0.03	0.0025	19	9
Chloromethane	0.0057	0.0057	0.0057	1	0
Chromium(VI)	0.00033	0.00033	0.00033	1	0
Chromium, Total	0.003	0.005	0.002	19	15
Copper, Total	0.151	0.21	0.089	19	0
Cyanide	0.011	0.025	0.002	19	17
Fluoride	0.54	0.94	0.05	9	4
Iron	1.13	2.4	0.47	11	0
Lead, Total	0.0017	0.005	0.001	19	16
Mercury, Total	0.000068	0.00014	0.00005	19	11
Molybdenum, Total	0.007	0.011	0.005	10	9
Nickel, Total	0.006	0.014	0.005	19	17
N-Nitroso-dimethylamine	0.002003	0.005	4.7E-09	15	7

INFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
N-Nitrosodi-N-propylamine	0.010001	0.025	0.000000001	15	13
Oil and Grease	40	65	23	6	0
Phenol	0.012	0.016	0.01	7	3
Phosphorus	7.3	13	4	21	0
Phosphorus from Conventionals	8.6	24.0	0.3	956	0
Selenium, Total	0.0025	0.0028	0.0016	19	16
Silver, Total	0.0023	0.0025	0.0009	19	17
TDS	883	970	840	6	0
Thallium	0.0005	0.0005	0.0005	13	13
TKN	42	49	32	15	0
TKN from Conventionals	47	140	26.0	956	0
Total Phenolics	0.051	0.065	0.043	6	0
TSS	320	420	210	21	0
TSS from Conventionals	495	1700	57	956	0
Uranium	0.0025	0.0025	0.0025	11	11
Zinc, Total	0.24	0.34	0.005	19	1

EFFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
Flow	16.50	20.80	13.80	956	0
2,3,7,8-TCCD	0.00000000071	9.74E-10	4.67E-10	10	10
2-Butanone (MEK)	0.0084	0.046	0.0025	8	6
3&4-Methylphenol	0.0146	0.045	0.00465	6	5
4-methyl-2-pentanone (MIBK)	0.0025	0.0025	0.0025	8	8
4-Methylphenol (p-Cresol)	0.0146	0.045	0.00465	6	5
Acetone	0.0419	0.2	0.0025	8	6
Ammonia	0.1842	0.53	0.07	22	0
Ammonia from Conventionals	0.19	1.80	0.02	955	3
Antimony	0.0013	0.00125	0.00125	13	13
Arsenic, Total	0.0020	0.0025	0.0007	20	18
Barium	0.0757	0.093	0.066	7	0
Beryllium	0.0005	0.001	0.0005	20	20
bis(2-ethylhexyl)phthalate	0.0096	0.0665	0.00465	18	17
BOD5	1.8	3	1	22	22
BOD from Conventionals	3.09	14.00	2.00	952	903

EFFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
Boron	0.2691	0.32	0.24	11	0
Bromodichloromethane	0.0084	0.014	0.0025	20	5
Cadmium, Total	0.0006	0.001	0.0005	20	20
Chlorodibromomethane	0.0027	0.0032	0.0025	4	2
Chloroform	0.0369	0.34	0.003	20	0
Chloromethane	0.0025	0.0025	0.0025	8	8
Chromium, Total	0.0026	0.005	0.0025	20	20
Copper, Total	0.0232	0.025	0.006	20	18
Cyanide	0.0077	0.025	0.0025	20	13
Fluoride	0.5767	0.9	0.1	9	3
Iron	0.0442	0.08	0.028	11	0
Lead, Total	0.0026	0.005	0.00125	20	20
Mercury, Total	0.0001	0.00005	0.00005	17	17
Molybdenum, Total	0.0065	0.01	0.005	10	10
Nickel	0.0056	0.011	0.005	20	19
Nitrate+Nitrite	4.8923	6	3.8	13	0
Nitrate+Nitrite from Conventionals	4.93	6.3	3.5	138	0
N-Nitrosodimethylamine	0.0098	0.0265	9.4E-09	16	8
N-Nitrosodi-N-propylamine	0.0031	0.025	0.000001	16	11
Oil and Grease	1.1286	1.7	0.7	7	0
Phenol	0.0120	0.012	0.012	1	0
Phosphorus	0.1559	0.78	0.05	22	5
Phosphorus from Conventionals	0.16	5.0	0.1	956	315
Phosphorus - Ortho, Dissolved	0.1313	0.38	0.05	15	4
Phosphorus - Ortho, Dissolved from Conventionals	0.15	5.9	0.1	955	344
Selenium, Total	0.0024	0.0025	0.0014	19	18
Silver, Total	0.0026	0.005	0.0025	20	20
TDS	886.5000	980	810	20	0
TDS from Conventionals	901	1100	440	140	0
Thallium	0.0005	0.0005	0.0005	13	13
TKN	0.9692	1.6	0.52	13	0
TKN from Conventionals	0.99	1.9	0.35	137	0
Total Inorganic Nitrogen	5.0846	6.2	4.3	13	0
Total Inorganic Nitrogen from Conventionals	5.10	6.4	4.0	138	0
TSS	0.9773	2	0.5	22	9

EFFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
TSS from Conventionals	0.67	5.0	0.5	955	763
Uranium	0.0025	0.0025	0.0025	11	11
Zinc, Total	0.0580	0.088	0.005	20	1

Domestic & Commercial Pollutant	Average	Maximum	Minimum	Count	# <MDL
Ammonia	27	29	26	7	0
Arsenic, Total	0.0091	0.015	0.0022	15	14
Barium	0.1329	0.16	0.12	7	0
Beryllium	0.0005	0.0005	0.0005	7	7
BOD5	273	570	190	15	0
Bromodichloromethane	0.0056	0.014	0.0025	7	4
Cadmium, Total	0.0012	0.0023	0.0005	15	14
Chloroform	0.0165	0.027	0.0029	6	0
Chromium, Total	0.0025	0.0026	0.0025	15	14
Copper, Total	0.0993	0.17	0.07	15	0
Cyanide	0.0183	0.025	0.0004	7	5
Diethylphthalate	0.0116	0.066	0.0025	7	6
Lead, Total	0.0045	0.00725	0.00125	15	15
Mercury, Total	0.000083	0.0001	0.00005	15	11
Nickel, Total	0.0035	0.009	0.0025	15	11
Oil and Grease	37.1429	51	25	7	0
Phenol	0.0103	0.012	0.01	7	5
Phenols, Total	0.0443	0.054	0.024	7	0
Phosphorus	4.9333	6	3.9	15	0
Selenium, Total	0.0145	0.025	0.002	15	13
Silver, Total	0.0038	0.005	0.0025	15	15
TDS	807.1	890	760	7	0
TSS	151	236	98	15	0
Zinc, Total	0.2180	0.41	0.15	15	0
2-Butanone (MEK)	0.0034	0.0054	0.0025	7	4
Acetone	0.0612	0.4	0.0025	7	5
Chlorodibromomethane	0.0026	0.0031	0.0025	7	5
3&4 Methylphenol	0.0588	0.1	0.0025	7	1
4-Methylphenol	0.0699	0.1	0.04	7	0

Sludge Pollutant	Maximum	Count
Arsenic	0.954	7
Cadmium	0.27	7
Chromium	2.8	7
Copper	130	7
Lead	1.6	7
Mercury	0.27	7
Nickel	2.3	6
Selenium	2.8	7
Silver	0.38	7
Zinc	140	7

iii. An analysis of pollutants of concern ("POCs") with an explanation for selection of the specific POCs; additional POCs may be identified from additional sampling

The following Table contains the POCs initially identified and after additional sampling was completed. The City will be evaluating which pollutants will be adopted as provided for in 40 CFR Section 403.8(f)(4).

Pollutant	POC?	Comments
Flow		
2,3,7,8-TCCD	No	All measurements <RL
2-Butanone (MEK)	No	No Applicable Standards
3&4-Methylphenol	No	No Applicable Standards
4-methyl-2-pentanone (MIBK)	No	No Applicable Standards
4-Methylphenol (p-Cresol)	No	No Applicable Standards
Acetone	No	No Applicable Standards
Ammonia	No	The POTW has a permit limit of 87 lbs/day for Ammonia (seasonal). The average daily effluent is 0.19 mg/L or 27.4 lbs/day or 32% of the design.
Antimony	No	All effluent measurements <RL
Arsenic, Total	Yes	EPA Recommended
Barium	No	No Applicable Standards
Benzyl Alcohol	No	No Applicable Standards
Beryllium	No	All measurements <RL
bis(2-ethylhexyl)phthalate	No	17 of 18 measurements <RL. No applicable Standards.

Pollutant	POC?	Comments
BOD_5	POTW Discretionary	Monthly Maximum Design: 97,578 lbs/day (CBOD*1.2). Actual Maximum Monthly Loading 2013-present: 72,906 lbs/day or 74% of design.
Boron	No	Maximum effluent concentration is 0.32 mg/L or 43% of the most stringent applicable Standard.
Bromodichloromethane	No	No applicable Standard. A byproduct of chlorination.
Cadmium, Total	Yes	EPA Recommended
Chlorodibromomethane	No	No applicable Standard. A byproduct of chlorination.
Chloroform	No	A byproduct of chlorination. No IU identified as being a source. Maximum influent concentration is 0.03 mg/L or 50% of the fume toxicity value. Average influent is 0.011 mg/L or 18% of the fume toxicity value.
Chloromethane	No	No applicable Standard. A byproduct of chlorination.
Chromium(VI)	No	All effluent measurements <RL
Chromium, Total	Yes	EPA Recommended
Copper, Total	Yes	EPA Recommended
Cyanide	No	17 of 19 influent measurements are <RL. No industrial user has been identified as using Cyanide. 13 of 20 effluent measurements are <RL. Formed in the wastewater treatment process.
Fluoride	No	Effluent averages 58% of Standard. Source is drinking water.
Iron	No	Effluent averages 4% of Standard.
Lead, Total	Yes	EPA Recommended
Mercury, Total	Yes	EPA Recommended

Pollutant	POC?	Comments
Molybdenum, Total	No	Landfills sludge. POTW effluent is <1% of most stringent standard.
Nickel, Total	Yes	EPA Recommended
Nitrate+Nitrite	No	Not identified by State as a pollutant of concern.
N-Nitroso-dimethylamine	No	No Applicable Standards
N-Nitrosodi-N-propylamine	No	No Applicable Standards
Oil and Grease	No	City has Specific Prohibition for O&G of 250 mg/L. POTW Effluent is 1.1 mg/L. City uses its FOG Program to control Oil and Grease.
Phenol	No	Maximum POTW effluent is 0.012 mg/L. No Standards.
Phosphorus	Yes	TMDL of 30 lbs per day is in NPDES Permit. POTW to adopt mass and allocate as needed. Treatment Plant design is 1,900 lbs/day. Actual POTW effluent average is 1,242 lbs/day or 65% of design
Phosphorus – Ortho	No	No Applicable Standards
Selenium, Total	Yes	EPA Recommended
Silver, Total	Yes	EPA Recommended
TDS	No	POTW has adopted a reporting requirement and source identification requirement for permitted IUs discharging >1200 mg/L. POTW effluent averages 887 mg/L or 47% of the annual average standard.
Thallium	No	All effluent measurements <RL
TKN	No	No Applicable Standards. POTW Maximum Monthly Design is 11,655 lbs/day. The Maximum Monthly Loading was 8,806 lbs/day or 76% of design.
Total Inorganic Nitrogen	No	No Applicable Standards
Total Petroleum Hydrocarbons	No	For Total Petroleum Hydrocarbons, the City has a Specific Prohibition of 100 mg/L and uses its Sand/Oil Separator program to control discharges.

Pollutant	POC?	Comments
Total Phenolics	No	No applicable Standard. See Phenol.
TSS	Yes	Monthly Maximum Design: 89,445 lbs/day. Actual Average Loading 2013-present: 71,462 lbs/day. POTW maintains consistent permit compliance for TSS effluent limits even when TSS loading approaches 131,000 lbs/day.
Uranium	No	All influent and effluent data <RL
Zinc, Total	Yes	EPA Recommended

iv. A summary of the criteria used for the calculation of headworks based on the respondent's current NPDES permit, Nevada water quality standards, sludge standards, any applicable air regulations, and worker health and safety considerations

Below is a table for calculation of Allowable Headworks Loadings. The Las Vegas Wash is classified for Irrigation, Livestock, non-Contact Recreation, Fresh Marsh, Wildlife and non-Fish Propagation. The City landfills sludge; therefore, 40 CFR Part 503 does not apply (beneficial reuse). MACT (Air) limits are not applicable.

Pollutant	POTW Design lbs/day	Acute WQS mg/L	Chronic WQS mg/L	Irrigation mg/L	Livestock mg/L	445A.199 State Existing Quality mg/L
Arsenic		0.34	0.15	0.1	0.05	
Cadmium		0.0087	0.0008	0.01		
Chromium (Total)		5.7633	0.2682	0.10	1	
Copper		0.0517	0.0306	0.2	0.5	
Lead		0.4768	0.0186	5.0	0.1	
Mercury		0.0014	0.00		0.01	
Molybdenum		6.16	1.65			
Nickel		1.5159	0.1685	0.2000		
Selenium		0.02	0.05	0.02	0.05	
Silver		0.0411				
Zinc		0.3878	0.3878	2.0000	25	
Phosphorus	1900					0.200

v. A presentation of the documented historical loadings from the POTW's industrial users discharging to the collection system including hauled wastewater users

As of October 22, 2015, the City has 28 Significant Industrial users. The previous 2 years of lab data for each permitted SIU is enclosed under separate cover. The City does not accept hauled wastewater users at its WRF.

vi. A presentation of the loadings from uncontrollable (domestic) sources

See Item ii. The City is developing local limits for Class I SIUs and discretionary Class II IUs (none currently identified) as allowed for at 40 CFR Section 403.18(b)(2). That means that the uncontrolled sources are the domestic + commercial sector until such time as the MAHL for a specific pollutant is exceeded as compared to actual headworks loading.

vii. A strategy for the POTW's use of data that is below detection limits

The City is following the 2004 EPA Local Limits Guidance on handling limits below the laboratory Minimum Level of Quantitation (ML) as shown in Section 5.1.3 of the Guidance. The City is using ½ of the ML. EPA listed other data handling guidance in the Order. The City sent an email to EPA on August 28, 2015 requesting specific citations on atypical data handing criteria that were inconsistent with the EPA Guidance for Local Limits. The email was followed-up by a conference call on September 15, 2015. No specific technical references were provided by EPA. Other than Zinc and Phosphorus, the POTW effluent measurements showed <RL for a majority of the measurements. This will typically result in the POTW using default removal efficiencies for many of the pollutants. The following table provides a summary of the POTW influent and effluent removal efficiencies:

Pollutant	POTW Influent	POTW Effluent
Arsenic	n=19, 18<RL	n=20, 18<RL
Cadmium	n=19, 17<RL	n=20, 20<RL
Chromium (Total)	n=19, 15<RL	n=20, 20<RL
Copper	n=19, 0<RL	n=20, 18<RL
Lead	n=19, 16<RL	n=20, 20<RL
Mercury	n=19, 11<RL	n=17, 17<RL
Nickel	n=19, 17<RL	n=20, 19<RL
Selenium	n=19, 16<RL	n=19, 18<RL
Silver	n=19, 17<RL	n=20, 20<RL
Zinc	n=19, 1<RL	n=20, 1<RL
TSS	n=956, 0<RL	n=955, 763<RL
Phosphorus	n=956, 0<RL	n=956, 315<RL

viii. A summary of the inhibition thresholds for the POTW; inhibition occurs when pollutant levels in a POTW's wastewater or sludge cause operational problems for biological treatment processes involving secondary or tertiary wastewater treatment and alter the POTW's ability to adequately remove BOD, TSS and other pollutants

The City's treatment plant has not experienced inhibition (or Interference) and is not developing site specific inhibition data as qualified in Section 5.2.4 of the EPA Local Limits Guidance. If the City identifies inhibition (or Interference) due to a pollutant discharged or contributed by industrial users that cannot be corrected through enforcement, the City will evaluate Inhibition (not a regulatory definition) and Interference as defined at 40 CFR Section 403.3(k).